**FACE INVESTIGATION**

**SUBJECT: Crane operator electrocuted dies when the boom he was operating came in contact with 4800 volt high power transmission line**

**SUMMARY:**

A 27 year old white male working as a tow truck operator for 7 years was electrocuted when the boom he was operating hit a 4800 volt high power transmission line. The victim was attempting to move a junked auto from 2 tiers of junked autos sideways. He was standing on the ground with one hand on the load hook and one on the chain when the boom hit the over head transmission line and he became energized. A co-worker witnessed the incident but was not touching the energized machines/tools. Trained rescue workers were on the scene within minutes of the incident. The worker was pronounced dead approximately 1 hour after the incident. The Wisconsin FACE investigator concluded that, in order to prevent future similar occurrences, the employer should:

! Implement 29 CFR 1910.180(j): maintain minimum clearance of 10 feet between part(s) of crawler crane(s) or load(s) and power lines.

! Implement CFR 1910.180(h)(3)(iv): Use cranes as required. It is prohibited to use cranes for a sideways pull on a rigged load in a salvage yard.

! Implement 29 CFR 1910.180(b)(3): Provide training to crane operators.

! Survey the work site to identify and address hazards posed by the location of overhead electrical lines. All employees should then be informed of the possible hazards. Work with the power company to move or bury the power line. Set up the yard so that the crane is away from the power lines. Affix safety signs to the equipment to warn the user of potential danger from contact with overhead power lines.

**INTRODUCTION:**

At 1:30 PM on May 6, 1992 a tow truck operator with 7 years experience was electrocuted when the boom of the crane he was operating came in contact with a 4800 volt power line.
The company had been in business for 33 years at this site. The company had no written safety program and no training in safety was provided to workers. On the job training was provided to do the tasks assigned. There was no designated safety officer. This fatality was reported to the Wisconsin FACE investigator by the Wisconsin Department of Labor and Human Relations, Workers Compensation Division. The death certificate, medical examiners report, autopsy report, and workers compensation report were obtained. The FACE investigator went to the site on June 25, 1992 and interviewed the employer and took photographs.

**INVESTIGATION:**

After lunch on May 6, 1992 the victim and a co-worker went into the yard to remove a car from a stack of junked cars. The victim maneuvered the boom of a crawler crane in close proximity to an overhead 4800 volt power line. He then attached a chain sling to an auto in an attempt to drag it sideways off of a two tier stack of autos. In doing this, he pulled the load hook attached to the load line toward the chain sling arrangement causing the load line to come in contact with the power line. The point of current entry was at the right hand where the victim was touching the load line hook. Current exited at the left hand where he was grasping the chain sling while standing on the ground. A co-worker witnessed the incident and had warned the victim that he was close to the power line. The co-worker was not in contact with the electricity and obtained help within minutes for the victim. The local EMT's provided CPR and transported the victim to the hospital where he was pronounced dead approximately 1 hour following the incident.

**CAUSE OF DEATH:** High voltage electrocution

**RECOMMENDATIONS/DISCUSSION:**

Recommendation #1: Implement 29 CFR 1910.180 (j): Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 feet is maintained. Absolute adherence to this rule could have prevented this incident.

Recommendation #2: Implement 1910.180(h)(3)(iv): Using cranes to drag loads sideways is prohibited. The planning process needed to perform this job in a safe manner was not completed and therefore a dangerous situation resulted.

Recommendation #3: Implement CFR 1910.180(b)(3): Designated personnel to operate the crane was not qualified. The operator did not demonstrate a trained response when he maneuvered the boom and load line within inches of the overhead power line.

Recommendation #4: Survey the work site to identify and address hazards posed by the location of overhead power lines and provide safety training.

Discussion: All workers should be informed of all possible hazards and should receive safety training. Crane operators did not receive special training for the tasks required. Although the employer and the employees were aware of the power lines overhead and the employer had attempted to get the power company to move the lines, the hazard was not dealt with either through removal of the hazard or training. To remove the hazard, the employer could have changed the way the yard work was performed and moved the crane. Continued efforts are recommended to get the power line moved or buried by the power company. The use of appropriate safety signs to warn workers of the potential for danger from electrical contact may be useful. The employer chose to remove the crane from the yard following the incident.